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10/015,845	11/01/2001	David J. Edlund	NPW 317	1147

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EXAMINER	
HANDAL, KAITY V	
ART UNIT	**PAPER NUMBER**
1764	

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/015,845	EDLUND, DAVID J.
	Examiner	Art Unit
	Kaity Handal	1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-15,17-19,21-47,50,51 and 53-68 is/are pending in the application.

4a) Of the above claim(s) 14,15,46 and 47 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-13,17-19,21-45,50-51,53-68 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-12, 17-18, 21-28, 61-62 and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al. (U.S. Pat. No. 5,685,890), and further in view of Boegner et al. (US 6,119,450).

With respect to claims 1, 12 and 61, Okada teaches a fuel processing system (fig. 3), comprising: a sulfur-removal assembly/hydrodesulfurization step including a sulfur-absorbent bed adapted to receive a stream containing a carbon-containing feedstock and sulfur compounds (col. 2, lines 20-25), wherein the bed contains a sulfur-absorbent material that is adapted to reduce the concentration of the sulfur compounds in the stream, and to catalyze the conversion of carbon monoxide and water to yield hydrogen gas and carbon dioxide at temperatures less than approximately 350°C (col. 5, lines 1-5), and wherein the bed further has a capacity of absorbed sulfur (col. 5, lines 1-25); and a fuel processor adapted to receive a feed stream that includes the carbon-containing feedstock from the sulfur-removal

assembly and to produce a product hydrogen stream containing hydrogen gas therefrom (col. 4, lines 32-40).

Okada teaches that the sulfur component in the hydrocarbon raw material poisons the steam reforming catalyst (col. 1, lines 23-25) and that it is desirable to control the sulfur removal step in order to control the sulfur concentration (col. 1, lines 50-54). Okada however fails to show wherein a sensor is adapted to measure the sulfur content absorbed by the bed. Boegner teaches a gas purifying apparatus (fig. 1) comprising a sensor (not shown) adapted to directly/indirectly measure the sulfur content absorbed by the bed/sulfur storage catalyst (9) in order to measure the sulfur storage capacity of said bed/sulfur storage catalyst (9) (col. 4, lines 45-59).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a sensor adapted to measure the sulfur content absorbed by the bed in Okada's apparatus, as taught by Boegner, in order to measure the sulfur storage capacity of said bed/sulfur storage catalyst.

With respect to claim 5, Okada teaches a fuel processing system wherein the sulfur-absorbent material is adapted to absorb organic sulfur compounds (col. 3, lines 50-58).

With respect to claims 8 and 9, Okada teaches a fuel processing system wherein the sulfur absorbent material includes 45% copper oxide (col. 8, line 49).

Regarding limitations recited in claims 2-4, 6, and 7 which are directed to specific properties of the sulfur absorbent material, the examiner notes once a specific absorbent composition is disclosed by the reference which is copper oxide, as set

forth above, and as described in the instant application specification section (page 10, lines 17-21 and page 11, lines 1-21), the disclosed absorbent will, inherently, display recited properties.

With respect to claim 10, Okada teaches a fuel processing system wherein the sulfur-absorbent material further includes zinc oxide (col. 3, lines 50-53 and col. 8, line 49).

With respect to claim 11, Okada teaches a fuel processing system wherein the sulfur-absorbent material includes chromium (col. 3, lines 27-28).

With respect to claims 17-18, Okada teaches a fuel processing system (fig. 3), comprising: a sulfur absorbent bed/hydrodesulfurization step including a sulfur-absorbent bed adapted to receive a stream containing a carbon-containing feedstock and sulfur compounds (col. 2, lines 20-25), wherein the bed contains a sulfur-absorbent material that is adapted to reduce the concentration of the sulfur compounds in the stream, and to catalyze the conversion of carbon monoxide and water to yield hydrogen gas and carbon dioxide at temperatures less than approximately 350°C (col. 5, lines 1-5), and wherein the bed further has a capacity of absorbed sulfur (col. 5, lines 1-25); and a fuel processor adapted to receive a feed stream that includes the carbon-containing feedstock from the sulfur-removal assembly and to produce a product hydrogen stream containing hydrogen gas therefrom (col. 4, lines 32-40).

Okada teaches that the sulfur component in the hydrocarbon raw material poisons the steam reforming catalyst (col. 1, lines 23-25) and that it is desirable to

control the sulfur removal step in order to control the sulfur concentration (col. 1, lines 50-54). Okada however fails to show wherein the fuel processing system further includes a controller that is adapted to determine when the bed has adsorbed at least a threshold level of sulfur that corresponds to a predetermined percentage of the bed's capacity and to trigger a user-notifying event responsive thereto. Boegner teaches wherein the fuel processing system further includes a controller (fig. 1, 3) that is adapted to determine when the bed/catalyst (9) has adsorbed at least a threshold level of sulfur that corresponds to a predetermined percentage/value of the bed's capacity and to trigger a user-notifying event responsive thereto (col. 4, lines 60-64) in order to regenerate the sulfur storage catalyst (col. 4, lines 45-47).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a controller that is adapted to determine when the bed has adsorbed at least a threshold level of sulfur that corresponds to a predetermined percentage of the bed's capacity and to trigger a user-notifying event responsive thereto in Okada's reformer, as taught by Boegner, regenerate the sulfur storage catalyst.

With respect to claim 21, Boegner further teaches wherein said controller includes a memory portion and further wherein the controller is adapted to store in the memory portion at least one value corresponding to a threshold level of sulfur (col. 4, lines 53-59).

With respect to claims 22-23 and 67, Boegner further teaches wherein said memory portion includes at least a lower value corresponding to a lower threshold

level of sulfur and a higher value corresponding to a higher threshold level of sulfur, and wherein upon determination that the bed has absorbed at least the lower threshold level of sulfur, the controller is adapted to send a first control signal to a user-notifying device, and further wherein upon determination that the bed has absorbed at least the higher threshold level of sulfur, the controller is adapted to send a second control signal to the user-notifying device (col. 4, lines 53-59).

With respect to claim 24, Okada teaches a fuel processing system wherein the sulfur-removal assembly further includes at least one sulfur-removal region adapted to remove sulfur compounds from the carbon-containing feedstock other than with the sulfur absorbent material (fig. 3) (col. 5, lines 14-22).

With respect to claim 25, Okada teaches a fuel processing system wherein at least one sulfur-removal region is adapted to remove sulfur compounds by hydrodesulfurization (col. 5, lines 14-22).

With respect to claim 26, Okada teaches a fuel processing system wherein the carbon-containing feedstock includes at least one hydrocarbon (col. 4, line 19).

Regarding limitations recited in claim 27 which is directed to material worked on, neither the manner of operating a disclosed device nor material or article worked upon further limit an apparatus claim. Said limitations do not differentiate apparatus claims from prior art. See MPEP § 2114 and 2115. Further, process limitations do not have patentable weight in an apparatus claim. See Ex parte Thibault, 164 USPQ 666, 667 (Bd. App. 1969) that states "Expressions relating the apparatus to

contents thereof and to an intended operation are of no significance in determining patentability of the apparatus claim."

With respect to claim 28, Okada teaches a fuel processing system wherein the feed stream includes water and the fuel processor includes a reforming region with at least one reforming catalyst bed adapted to produce a stream containing hydrogen gas from the feed steam via a reforming reaction and further wherein the product hydrogen stream is formed from the stream containing hydrogen gas (col. 4, lines 32-40).

3. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al. (U.S. Pat. No. 5,685,890) in view of Boegner et al. (US 6,119,450), as applied to claim 12 above, and further in view of Fanciullo (U.S. Pat. 4,098,959).

With respect to claim 13, Okada discloses all claim limitations as set forth above as well as the sulfur absorbent bed being operated at a temperature of 350°C but fails to show a means such as a heating assembly adapted to heat the bed.

Fanciullo teaches wherein the fuel processing system (45) which includes a heating assembly (40) adapted to heat a desulfurizer (20) (col. 4, lines 10-14).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the heating assembly of Fanciullo to heat the sulfur-absorbent bed in Okada's reformer, in order to heat said sulfur-absorbent bed to Okada's required temperature.

4. Claims 19 and 63-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al. (U.S. 5,685,890), in view of Edlund et al. (U.S. 6,451,464 B1), as applied to claim 17 above, and further in view of Boegner et al. (US 6,119,450).

With respect to claims 19 and 63-64, Okada as modified discloses all claim limitations as set forth above but fails to show wherein the controller includes at least one sensor adapted to measure the sulfur content absorbed by the bed. Boegner teaches a gas purifying apparatus (fig. 1) comprising a sensor (not shown) adapted to directly/indirectly measure the sulfur content absorbed by the bed/sulfur storage catalyst (9) in order to measure the sulfur storage capacity of said bed/sulfur storage catalyst (9) (col. 4, lines 45-59).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a sensor adapted to measure the sulfur content absorbed by the bed in Okada's modified apparatus, as taught by Boegner, in order to measure the sulfur storage capacity of said bed/sulfur storage catalyst.

5. Claims 29-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al. (U.S. Pat. 5,685,890) in view of Boegner et al. (US 6,119,450), as applied to claims 1 and 28 above, and further in view of Edlund (U.S. Pat. 5,861,137).

With respect to claim 29, Okada as modified discloses all claim limitations as set forth above, Okada further teaches wherein the stream containing hydrogen gas further includes other gases (col. 4, lines 38-40), but he fails to disclose wherein the fuel processor includes a separation region in which the stream containing hydrogen

gas is separated into a hydrogen-rich stream containing at least substantially hydrogen gas and a byproduct stream containing at least a substantial portion of the other gases. Edlund teaches fuel processing wherein the fuel processor includes a separation region in which the stream containing hydrogen gas is separated in order to separate the hydrogen stream from the byproduct stream (col. 3, lines 30-34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a separation region in which the stream containing hydrogen gas is separated into a hydrogen-rich stream containing at least substantially hydrogen gas in Okada's modified reformer, as taught by Edlund, in order to separate the hydrogen stream from the byproduct stream.

With respect to claim 30, Edlund further teaches fuel processing wherein said separation region is adapted to separate the stream containing hydrogen gas into the hydrogen-rich stream and the byproduct stream via a pressure-driven separation process in order for the hydrogen stream to migrate through membrane tubes (fig. 3, 54) (col. 4, line 67, and col. 5, lines 1-2).

With respect to claim 31, Edlund further teaches wherein the separation region includes at least one hydrogen-permeable membrane (fig. 3, 54) positioned to be contacted by the stream containing hydrogen in order to separate the hydrogen stream from the byproduct stream (col. 3, lines 31-34).

With respect to claims 32 and 35, Okada as modified discloses all claim limitations as set forth above but fails to disclose wherein the fuel processing system further comprises a fuel cell stack (fig. 1, 16) adapted to receive at least a portion of

the product hydrogen stream and to produce an electric current therefrom. Edlund teaches a reformer comprising a fuel cell stack adapted to receive at least a portion of the product hydrogen stream in order to generate electrical energy (col. 6, lines 35-38).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a fuel cell stack adapted to receive at least a portion of the product hydrogen stream in Okada's modified reformer, as taught by Edlund, in order to generate electrical energy.

With respect to claim 33, Edlund further teaches wherein at least one membrane comprises at least one of palladium and a palladium alloy in order to fabricate said membrane utilizing preferred materials in the art (col. 4, lines 58-63).

With respect to claim 34, Edlund further teaches a plurality of hydrogen-permeable membranes in order to increase hydrogen output of the reformer (fig. 4, 54) (col. 6, lines 46-56).

6. Claims 36-44, 50-51, 53-59, 65-66 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al. (U.S. Pat. 5,685,890), in view of Boegner et al. (US 6,119,450) and further in view of Edlund (U.S. Pat. 5,861,137).

With respect to claim 36, 44, 50, Okada teaches a fuel processing system (fig. 3), comprising: a sulfur-removal assembly including a sulfur-absorbent bed adapted to receive a stream containing a carbon-containing feedstock and sulfur compounds, wherein the bed contains a sulfur-absorbent material that is adapted to reduce the

concentration of the sulfur compounds in the stream (col. 5, lines 1-5), is selected from a group that does not catalyze the formation of methane or coke from the carbon-containing feedstock when the bed is operated at a temperature of less than approximately 400°C, and is adapted to absorb organic sulfur compounds and wherein the bed further has a capacity of absorbed sulfur (col. 5, lines 1-25). Okada further teaches a fuel processor adapted to receive a feed stream that includes the carbon-containing feedstock from the sulfur-removal assembly and to produce a product hydrogen stream containing hydrogen gas therefrom (col. 4, lines 32-40), wherein the fuel processor includes a reforming region (illustrated in fig. 3) containing at least one reforming catalyst bed in which a mixed gas stream containing hydrogen gas and other gases is produced from a feed stream that includes the stream containing the carbon-containing feedstock and water (col. 4, lines 32-40).

Okada teaches that the sulfur component in the hydrocarbon raw material poisons the steam reforming catalyst (col. 1, lines 23-25) and that it is desirable to control the sulfur removal step in order to control the sulfur concentration (col. 1, lines 50-54). Okada however fails to show a controller adapted to determine when the bed has absorbed at least a threshold level of sulfur that corresponds to a predetermined percentage of the bed's capacity, and to trigger a user-notifying event in response to the determination.

Okada fails to show wherein the fuel processing system further includes a controller that is adapted to determine when the bed has adsorbed at least a

threshold level of sulfur that corresponds to a predetermined percentage of the bed's capacity and to trigger a user-notifying event responsive thereto. Boegner teaches wherein the fuel processing system further includes a controller (fig. 1, 3) that is adapted to determine when the bed/catalyst (9) has adsorbed at least a threshold level of sulfur that corresponds to a predetermined percentage/value of the bed's capacity and to trigger a user-notifying event responsive thereto (col. 4, lines 60-64) in order to regenerate the sulfur storage catalyst (col. 4, lines 45-47).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a controller that is adapted to determine when the bed has adsorbed at least a threshold level of sulfur that corresponds to a predetermined percentage of the bed's capacity and to trigger a user-notifying event responsive thereto in Okada's reformer, as taught by Boegner, regenerate the sulfur storage catalyst.

Okada fails to teach wherein the fuel processor includes a separation region in which the mixed gas stream is separated via a pressure-driven separation process into a hydrogen-rich stream containing at least substantially hydrogen gas and a byproduct stream containing at least a substantial portion of the other gases.

Edlund ('137) teaches a reformer which includes a separation region in which the mixed gas stream is separated via a pressure-driven separation process into a hydrogen-rich stream containing at least substantially hydrogen gas and a byproduct stream containing at least a substantial portion of the other gases in order to

separate the hydrogen stream from the byproduct stream (col. 3, lines 30-34) and (col. 4, line 67, and col. 5, lines 1-2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a pressure-driven separation process in which the stream containing hydrogen gas is separated into a hydrogen-rich stream containing at least substantially hydrogen gas in Okada's reformer, as taught by Edlund ('137), in order to separate the hydrogen stream from the byproduct stream.

Regarding limitations recited in claims 36-39 which are directed to specific properties of the sulfur absorbent material, the examiner notes once a specific absorbent composition is disclosed by the reference which is copper oxide, as set forth above, and as described in the instant application specification section (page 10, lines 17-21 and page 11, lines 1-21), the disclosed absorbent will, inherently, display recited properties.

With respect to claims 40 and 41, Okada teaches a fuel processing system wherein the sulfur absorbent material includes 45% copper oxide (col. 8, line 49). Material composition does not limit an apparatus claim, further more, the percentage of copper oxide of 45% falls within the ranges of 10-90% and 20-60% as claimed, therefore claim requirement is met.

With respect to claim 42, Okada teaches a fuel processing system wherein the sulfur-absorbent material further includes zinc oxide (col. 3, lines 50-53 and col. 8, line 49).

With respect to claim 43, Okada teaches a fuel processing system wherein the sulfur-absorbent material includes chromium (col. 3, lines 27-28).

With respect to claims 51 and 65-66, Okada as modified fails to show wherein the controller includes at least one sensor adapted to directly/indirectly measure the sulfur content absorbed by the bed. Boegner teaches a gas purifying apparatus (fig. 1) comprising a sensor (not shown) adapted to measure the sulfur content absorbed by the bed/sulfur storage catalyst (9) in order to measure the sulfur storage capacity of said bed/sulfur storage catalyst (9) (col. 4, lines 45-59).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a sensor adapted to measure the sulfur content absorbed by the bed in Okada's apparatus, as taught by Boegner, in order to measure the sulfur storage capacity of said bed/sulfur storage catalyst.

With respect to claim 53, Boegner further teaches wherein said controller includes a memory portion and further wherein the controller is adapted to store in the memory portion at least one value corresponding to a threshold level of sulfur (col. 4, lines 53-59).

With respect to claims 54-55 and 68, Boegner further teaches wherein said memory portion includes at least a lower value corresponding to a lower threshold level of sulfur and a higher value corresponding to a higher threshold level of sulfur, and wherein upon determination that the bed has absorbed at least the lower threshold level of sulfur, the controller is adapted to send a first control signal to a user-notifying device, and further wherein upon determination that the bed has

absorbed at least the higher threshold level of sulfur, the controller is adapted to send a second control signal to the user-notifying device (col. 4, lines 53-59).

With respect to claim 56, Edlund ('137) further teaches fuel processing wherein the separation region includes at least one hydrogen-permeable membrane (fig. 3, 54) positioned to be contacted by the stream containing hydrogen in order to separate the hydrogen stream from the byproduct stream (col. 3, lines 31-34).

With respect to claim 57, Edlund ('137) further teaches wherein at least one membrane comprises at least one of palladium and a palladium alloy in order to fabricate said membrane utilizing preferred materials in the art (col. 4, lines 58-63).

With respect to claim 58, Edlund ('137) further teaches a plurality of hydrogen-permeable membranes in order to increase hydrogen output of the reformer (fig. 4, 54) (col. 6, lines 46-56).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a plurality of hydrogen-permeable membranes in Okada's reformer, as taught by Edlund, in order to increase hydrogen output of the reformer.

With respect to claim 59, Okada discloses all claim limitations as set forth above but fails to disclose wherein the fuel processing system further comprises a fuel cell stack (fig. 1, 16) adapted to receive at least a portion of the product hydrogen stream and to produce an electric current therefrom. Edlund ('137) teaches a reformer comprising a fuel cell stack adapted to receive at least a portion of the product hydrogen stream in order to generate electrical energy (col. 6, lines 35-38).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a fuel cell stack adapted to receive at least a portion of the product hydrogen stream in Okada's reformer, as taught by Edlund ('137), in order to generate electrical energy.

7. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al. (U.S. Pat. No. 5,685,890) in view of Boegner et al. (US 6,119,450) and in view of Edlund (U.S. Pat. 5,861,137), as applied to claim 44 above, and further in view of Fanciullo (U.S. Pat. 4,098,959).

With respect to claim 45, Okada as modified discloses all claim limitations as set forth above as well as the sulfur absorbent bed being operated at a temperature of 350°C but fails to show a means such as a heating assembly adapted to heat the bed.

Fanciullo teaches wherein the fuel processing system (45) which includes a heating assembly (40) adapted to heat a desulfurizer (20) (col. 4, lines 10-14).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the heating assembly of Fanciullo to heat the sulfur-absorbent bed in Okada's modified apparatus, in order to heat said sulfur-absorbent bed to Okada's required temperature.

Response to Arguments

Arguments are moot due to new grounds of rejection.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Towler is cited to demonstrate the state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kaity Handal whose telephone number is (571) 272-8520. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KH

3/5/2006

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ALEXA DOROSHENK NECKEL
PRIMARY EXAMINER